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United States Patent [19]**Wakita et al.**[11] **Patent Number:** **5,546,889**[45] **Date of Patent:** **Aug. 20, 1996**

[54] **METHOD OF MANUFACTURING ORGANIC ORIENTED FILM AND METHOD OF MANUFACTURING ELECTRONIC DEVICE**

4,923,288	5/1990	Allen et al.	350/355
5,142,343	8/1992	Hosokawa et al.	357/17
5,180,470	11/1993	Smith et al.	117/925
5,284,779	2/1994	Miyanaga	117/925

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FOREIGN PATENT DOCUMENTS

04133351	5/1992	Japan	117/925
913584	3/1991	WIPO	117/927

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Related U.S. Application Data

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[51] **Int. Cl.⁶** **C30B 29/54**

[52] **U.S. Cl.** **117/84; 117/925; 117/927**

[58] **Field of Search** **117/925, 927, 117/84**

[56] **References Cited**

U.S. PATENT DOCUMENTS

4,446,620 5/1984 Proskow 430/286

[57] **ABSTRACT**

A method of manufacturing an organic electronic device having a substrate and a pair of electrodes facing each other, including the steps of forming a polytetrafluoroethylene oriented film on a substrate, and contacting an oligothiophene compound with the polytetrafluoroethylene oriented film to form an organic oriented film on the polytetrafluoroethylene oriented film between the pair of electrodes wherein the long axis of oligothiophene molecules is oriented to the orientation of the polytetrafluoroethylene oriented film and crystallized.

16 Claims, 9 Drawing Sheets